CLAIMS:

1. A transgenic plant of the *Solanaceous* family comprising at least one non-native nucleic acid that when expressed in said plant results in increased free methionine levels relative to native free methionine levels.

2. The transgenic plant of claim 1 wherein said non-native nucleic acid encodes cystathionine gamma synthase (CGS).

3. The transgenic plant of claim 2 wherein said non-native nucleic acid encodes a wild-type *Arabidopsis* CGS.

4. The transgenic plant of claim 2 wherein said non-native nucleic acid encodes a mutant, non-self regulating *Arabidopsis* CGS.

5. The transgenic plant of claim 2 wherein said non-native nucleic acid is derived from a flowering plant, yeast or algae.

6. The transgenic plant of claim 5 wherein the non-native nucleic acid is derived from a plant that is potato, tomato, tobacco, ice plant or maize.

7. The transgenic plant of claim 2 wherein said non-native nucleic acid encodes a bacterial CGS.

8. The transgenic plant of claim 1 that is a potato and wherein said non-native nucleic acid comprises a tuber-specific promoter operably linked to an anti-sense S-adenosyl-methionine synthetase (SAMS) DNA.

9. The transgenic plant of claim 8 wherein the tuber-specific promoter is a patatin promoter.

10. The transgenic plant of claim 1 wherein said non-native nucleic acid comprises an anti-sense threonine synthase DNA.

11. The transgenic plant of claim 1 which is a potato plant.

12. The transgenic plant of claim 1 which is a tomato plant.

13. Seed derived from the transgenic plant of claim 1.

14. A transgenic plant comprising at least one non-native nucleic acid other than a nucleic acid that encodes a plant cystathionine gamma synthase, that is expressed in said plant and results in increased free methionine levels relative to native free methionine levels, wherein an edible portion of said transgenic plant contains increased methional levels when processed compared to methional levels in a processed edible portion obtained from a wild-type plant.

15. The transgenic plant of claim 14 that is a maize plant.

16. The transgenic plant of claim 14 that is a soybean plant.

17. A method of making a plant having increased free methionine levels, comprising preparing a transgenic *Solanaceous* plant having a genome that contains a non-native nucleic acid molecule that is expressed in said plant and causes said plant to have increased free methionine levels compared to native free methionine levels.

18. The method of claim 17 comprising transforming a protoplast derived from a cell of a wild-type *Solanaceous* plant with the non-native DNA molecule to produce a transformed protoplast, and generating the transgenic plant from the transformed protoplast.

19. The method of claim 17 comprising introducing the non-native DNA molecule into tissue of a wild-type *Solanaceous* plant to produce transformed tissue, and regenerating the transgenic *Solanaceous* plant from the transformed tissue.

20. A method of making a transgenic *Solanaceous* plant having enhanced flavor quality or stability, comprising preparing a transgenic *Solanaceous* plant having a genome that contains a non-native DNA molecule that is expressed in said plant and causes said plant to have increased free methionine levels compared to native free methionine levels, and wherein an edible portion of said transgenic plant when processed, contains increased methional levels relative to methional levels in a processed edible portion of a wild-type *Solanaceous* plant.

21. The method of claim 20 further comprising harvesting said transgenic plant and processing said edible portion of said transgenic plant.

22. A processed product prepared by the method of claim 21.

23. The processed product of claim 22 comprising potato tuber.

24. The processed product of claim 22 comprising tomato fruit.

25. A method of making a plant having increased free methionine levels, comprising preparing a transgenic plant having a genome that contains a non-native nucleic acid other than a nucleic acid encoding a plant cystathionine gamma synthetase molecule that is expressed in said plant and causes said plant to have increased free methionine levels compared to native free methionine levels and wherein an edible portion of said transgenic plant contains increased methional levels when processed compared to methional levels in a processed edible portion obtained from a wild-type plant.

26. The method of claim 25 comprising transforming a protoplast derived from a cell of a wild-type plant with the non-native DNA molecule to produce a transformed protoplast, and generating the transgenic plant from the transformed protoplast.

27. The method of claim 25 comprising introducing the non-native DNA molecule into tissue of a plant to produce transformed tissue, and regenerating the transgenic maize or soybean plant from the transformed tissue.

28. A method of making a transgenic plant having enhanced flavor quality or stability, comprising preparing a transgenic plant having a genome that contains a non-native DNA molecule that is expressed in said plant and causes said plant to have increased free methionine levels compared to native free methionine levels, and wherein an edible portion of said plant when processed, contains increased methional levels relative to methional levels in a processed, edible portion of a wild-type plant.

29. The method of claim 28, further comprising harvesting said transgenic plant and processing said edible portion of said transgenic plant.

30. A processed product prepared by the method of claim 29.

31. The processed product of claim 30 comprising maize seed.

32. The processed product of claim 30 comprising soybean seed.

33. A chimeric nucleic acid, comprising a promoter functional in a plant cell operably linked to a first DNA molecule of interest and a second DNA molecule encoding a cystathionine gamma synthase that permits the selection of a transformed plant call containing said nucleic acid molecule by rendering said transformed plant cell resistant to an amount of ethionine that would be toxic to a plant cell that does not express said second DNA molecule.

34. A transformed plant cell containing the chimeric nucleic acid of claim 33.

35. A composition of matter comprising the transformed plant cell of claim 34 and medium containing an ethionine in an amount that would be toxic to a plant cell that does not contain said second DNA molecule.

36. A method of selecting a plant cell that contains a non-native nucleic acid of interest, comprising transforming a plant cell with a chimeric nucleic acid containing in operable association, a promoter functional in a plant cell and a first and a second DNA molecule, and first DNA molecule of interest and said second DNA molecule encoding a cystathionine gamma synthase that permits the selection of a transformed plant cell containing said chimeric nucleic acid molecule by rendering said transformed plant cell resistant to an amount of ethionine that would be toxic to a plant cell that does not express said second DNA molecule; culturing plant cells in medium containing ethionine in an amount that would be

toxic to a plant cell that does not express said second DNA molecule; and selecting plant cells that grow in said medium.